



2018 Application for Section 205(j) Water Quality Planning Grant

Division of Water Resources
North Carolina Department of Environmental Quality

| 1. Basic Information | | | |
|---|--|--------------------------|---------------|
| Project Title: | Upper Middle Creek 9-Element Watershed Action Plan | | |
| Project start date: | February 15, 2019 | Project end date: | June 30, 2020 |
| Project Abstract: | | | |
| <p>The Upper Middle Creek watershed is a highly developed subwatershed of the Neuse River Basin. This watershed is comprised of land in the Apex, Cary, Holly Springs, and Fuquay-Varina jurisdictions, as well as unincorporated Wake County, which are part of the burgeoning Triangle metropolitan area. This heavily-urbanized area is becoming more impacted by growth and development every day; the Town of Apex, which encompasses the headwaters of Upper Middle Creek, was recently named the “fastest growing suburb in the nation” by a leading real estate website. Three distinct stretches of Middle Creek, including its headwaters, as well as its tributary, Terrible Creek, are listed on the most recent 303(d) impaired waters list as not supporting sufficient benthic life and/or fish communities. This level of impairment can be expected to continue, and even worsen, as increasing urbanization occurs in the Upper Middle Creek watershed. As such, a Watershed Action Plan is needed to identify sources of both existing and potential impairment through data analysis and investigation, and to outline strategies for all participating project Partners to aid in watershed restoration and conservation practices to improve and protect water quality in this watershed.</p> <p>The goal of this project will be to develop, complete, and secure DEQ approval of a Watershed Action Plan for the Upper Middle Creek that identifies stressors and causes of impairment, as well as action items which project Partners can implement to mitigate these issues. This multi-disciplinary, multi-jurisdictional plan will provide regional opportunities for collaboration and watershed protection.</p> | | | |
| 205(j) Grant Funds Requested | | \$21,846.55 | |
| Match (optional, recommended) | | \$13,075.45 | |
| Total Project Cost | | \$34,922.00 | |



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2a. Primary Contact or Project Manager:

A one-page Statement of Qualifications must be provided in Section 4 of the application form to confirm that anyone designing, installing, or monitoring the proposed project is qualified to do so.

| | | | | | |
|--------------------------|--|----------------|--------------|------------|-------|
| Name | Jen Schmitz | | | | |
| Title | Principal Planner – Water Resources | | | | |
| Organization Name | Triangle J Council of Governments | | | | |
| Mailing Address | 4307 Emperor Blvd. Suite 110 | | | | |
| City | Durham | State | NC | ZIP | 27703 |
| Email Address | jschmitz@tjcoq.org | | | | |
| Telephone | 919-558-9342 | FAX No. | 919-549-9390 | | |

2b. Administrative Address:

Address where contract will be mailed for signature.

| | | | | | |
|------------------------------|--|----------------|--------------|------------|-------|
| Name | Lee Worsley | | | | |
| Title | Executive Director | | | | |
| Organization Name | Triangle J Council of Governments | | | | |
| Mailing Address | 4307 Emperor Blvd. Suite 110 | | | | |
| City | Durham | State | NC | ZIP | 27703 |
| Email Address | lworsley@tjcoq.org | | | | |
| Telephone | 919-558-9395 | FAX No. | 919-549-9390 | | |
| Federal Tax ID Number | 561017435 | | | | |

2c. Payment Address:

Address where invoice payments will be mailed.

| | | | | | |
|--------------------------|--|----------------|--------------|------------|-------|
| Name | Rebecca McGovern | | | | |
| Title | Finance Specialist | | | | |
| Organization Name | Triangle J Council of Governments | | | | |
| Mailing Address | 4307 Emperor Blvd. Suite 110 | | | | |
| City | Durham | State | NC | ZIP | 27703 |
| Email Address | rmcgovern@tjcoq.org | | | | |
| Telephone | 919-558-9399 | FAX No. | 919-549-9390 | | |

3. Statement of Qualifications for project manager and primary partners

Please include qualifications of people, not organizations. Do not copy and paste entire CVs. Briefly describe relevant experience, noting any relevant 205(j) grant funded projects.

JEN A. SCHMITZ

Accomplished water resources professional with a diverse expertise and proven track record of success. Excellent communication, client service, problem solving, facilitation, collaboration and multi-disciplinary program management skills. Strong relationships with local governments, natural resource organizations and firms, program partners, project clients, State agency personnel and industry peers.

Skills Summary

Watershed Planning, Project Scoping & Budgeting, Contract Administration, Collaborative Leadership

Education

Master of Science- Land Resources and Environmental Science
Montana State University - 2015

Bachelor of Science – Zoology, *magna cum laude*
Michigan State University – 2006

Certificate – Geographic Information Systems
University of Washington - 2011

Professional Experience

Principal Planner – Water Resources

Triangle J Council of Governments, January 2017 to Present

Project Manager, Cross Creek Watershed Action Plan (205(j) Funded Effort).

Completion of comprehensive watershed action plan that encouraged collaboration of local entities while using limited resources and data.

Project Manager, Nutrient Criteria Development Process, 319 Grant-Funded Effort.

NCDWR selected TJCOG to administrate this grant project, who in turn have contracted with the Dispute Settlement Center, Inc. of Carrboro, NC (DSC) to provide the professional facilitation services for Nutrient Scientific Advisory Board, the Criteria Implementation Committee, and the Scientific Advisory Committee meetings from October 1, 2017 through September 30, 2019.

Project Manager, Triangle Area Water Supply Monitoring Project. Seven water supply jurisdictions, TJCOG, and the USGS form a joint partnership to perform comprehensive water quality monitoring in Jordan and Falls Lakes as well as tributaries and input streams. This collaborative approach to monitoring in the two basins is meant to encourage inter-agency cooperation, streamline data collection and reporting, and provide several key economies of scale. This project has been ongoing since the 1980's and is one of the most robust water quality datasets in the area.

Project Manager, Upper Cape Fear River Basin Association. On-going project to provide collaborative surface water quality monitoring in the Upper Cape Fear River Basin. Official monitoring coalition operating under an MOA with DWR.

Project Manager, Clean Water Education Partnership. Ongoing program since 2002 that provides mass education and outreach for 30+ municipal partners to assist them in meeting stormwater education requirements associated with state and federal permits.

Project Manager, Triangle Regional Resiliency Partnership. This assessment project is a collaborative effort among Orange County, the Town of Chapel Hill, the City of Durham, Durham County, the Town of Cary, the City of Raleigh, and UNC Asheville's National Environmental Modeling and Analysis Center (NEMAC) that will provide information and analysis to help each of the participating local governments improve local planning processes, build community capacity, and become more efficient and productive.

JUSTIN D. HYNICKA

Justin Hynicka is an independent consulting ecologist based in Raleigh, NC. He enjoys using his strong foundation in science to help find creative and effective solutions to natural resource concerns, and has held positions with state, county, and non-government organizations in Pennsylvania, Maryland, District of Columbia, and North Carolina measuring, monitoring, quantifying, and restoring ecosystem services of forests.

Skills Summary

Ecology, Environmental Chemistry, Soil Science, Data Analysis

Education

Master of Science – Soil Science and Forest Ecosystems and Society, dual major
Oregon State University - 2014

Bachelor of Science – Chemistry and Environmental Geology, dual major
University of Pittsburgh– 2008

Professional Experience

Consulting Natural Resource Conservationist
Wake Soil and Water Conservation District, 06/18 to Present

Manager of Forest Conservation, American Forests, Washington, DC, 06/16 to 06/18
Manage forest restoration partnerships, contracts, and data for approximately 40 different restoration projects planting over 3 million trees annually. Working in a small team, I helped identify priority landscapes for restoration and translate the benefits of restored forests in terms of carbon, water, and wildlife for a broad audience.

Independent Consultant for Center for Watershed Protection, Ellicott City, MD, 11/16 to 05/17
Designed and built a custom water balance model to estimate 'edge of field' water quantity and quality benefits of urban trees at the national scale. The model was developed in the

open-source computer program RStudio and results are being used by collaborators at the Center for Watershed Protection to develop a national crediting framework for urban trees.

Chesapeake Watershed Forester, MD Forest Service, Annapolis, MD, 12/14 to 06/16
 Managed the Forest Service Unit's riparian forest buffer planting database. Collected geomorphic and vegetative data from long-term riparian buffer monitoring plots. Coordinated the state's Forest Legacy Program including grant management and reporting duties, and was an active member of the Forestry Workgroup at the Chesapeake Bay Program. Collaborated with local, state, and federal partners on several special projects including water quality monitoring (TNC MD/DC Chapter), climate resilience planning (USFS Climate Change Response Framework), and scientific literature reviews (Chesapeake Bay Program).

Urban Forestry Program Coordinator and Rain Barrel Program Assistant, Nine Mile Run Watershed Association, Pittsburgh, PA, 05/08 – 09/11
 Coordinated tree planting events, educated municipal representatives on forestry BMPs, and collaborated with environmental professionals on NMRWA's monitoring committee. I organized and lead a street tree inventory for three municipalities within the watershed, and combined the results with historical data to evaluate change in tree canopy cover over time. Worked as part of a team to manage a high-density rain barrel program that included door-to-door canvassing, rain barrel installation, and maintenance. Independently analyzed sewer hydrograph data from a focus sub-watershed to evaluate the effect of rain barrels on stormwater runoff.

| 4. Project Partner Information: <i>If further space is needed to adequately describe partners' role/contribution to project, please include in the Statement of Qualifications section.</i> | | | |
|---|---|-----------|----------------|
| Agency Name | Wake County Soil and Water Conservation District | | |
| Agency Address | 4001-D Carya Drive Raleigh, NC 27610 | | |
| Role/contribution to Project | Primary Partner Lead – Report Development, GIS, Outreach | | |
| Contact Person | Justin Hynicka | Phone No. | 919-250-1054 |
| E-mail address | Justin.Hynicka@wakegov.com | | |
| Agency Name | Town of Apex | | |
| Agency Address | PO Box 250, Apex NC | | |
| Role/contribution to Project | Local advisor; project collaboration, supply watershed information/resources for compilation, review draft plan | | |
| Contact Person | Jessica Bolin, PE | Phone No. | (919) 249-3537 |

| | | | |
|-------------------------------------|---|------------------|--------------|
| <i>E-mail address</i> | Jessica.bolin@apexnc.org | | |
| <i>Agency Name</i> | Town of Holly Springs | | |
| <i>Agency Address</i> | 128 S. Main St. Holly Springs, NC 27540 | | |
| <i>Role/contribution to Project</i> | Local advisor; project collaboration, supply watershed information/resources for compilation, review draft plan | | |
| <i>Contact Person</i> | Daniel Colavito | <i>Phone No.</i> | |
| <i>E-mail address</i> | daniel.colavito@hollyspringsnc.us | | |
| <i>Agency Name</i> | Town of Fuquay-Varina | | |
| <i>Agency Address</i> | 401 Old Honeycutt Road, Fuquay-Varina, NC 27592 | | |
| <i>Role/contribution to Project</i> | Local advisor; project collaboration, supply watershed information/resources for compilation, review draft plan | | |
| <i>Contact Person</i> | Matthew B. Poling, PE, CFM | <i>Phone No.</i> | 919-753-1035 |
| <i>E-mail address</i> | mpoling@fuquay-varina.org | | |
| <i>Agency Name</i> | Town of Cary | | |
| <i>Agency Address</i> | 316 N. Academy St., Cary, NC 27513 | | |
| <i>Role/contribution to Project</i> | Local advisor; project collaboration, supply watershed information/resources for compilation, review draft plan | | |
| <i>Contact Person</i> | Charles Brown, CFM | <i>Phone No.</i> | 919-469-4038 |
| <i>E-mail address</i> | charles.brown@townofcary.org | | |

| 5. General Goal of the Project (per the Clean Water Act Section 604(b)/205(j) grant purpose) | | | |
|---|---|---|---|
| Identify most cost effective and locally acceptable facility and nonpoint source measure to meet and maintain water quality standards | Develop implementation plan to obtain state and local financial and regulatory commitments to implement measures identified | Determine the nature, extent, and cause of water quality problems in various areas of the state | Other—please specify water quality planning purpose |
| X | X | X | |

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| 6. Project Area | |
| Results Site-Specific, Regional, or Statewide? | Site-specific to local HUC, but is adjacent to previous efforts and approved watershed plans; also spans several municipal boundaries, so will provide additional regional benefits. |
| River Basin | Neuse River Basin |
| Need identified in Basin Plan? (Y/N; note plan name, date, pg#) | <p>YES. The Neuse River Basinwide Water Quality Plan includes recommendations that actions to identify sources of pollution and measures to improve water quality should be implemented at the local level. It recommends developing and implementing watershed-scale plans in partnership with state and federal agencies, as well as with local governments and other interested stakeholders. In addition, the Basinwide Plan recommends that watershed-scale plans address water quality impairments and include a plan for implementation that reflects a variety of source reduction and stormwater treatment methods.</p> <p>The principal priority of this proposed 205J project is to enable local governments and other interested Project Partners to implement local watershed planning initiatives in the Upper Middle Creek, which aim to meet the goals identified in the Neuse River Basinwide Water Quality Plan.</p> |
| Watershed name | Upper Middle Creek |
| Watershed size | 56.75 square miles |
| (For site-specific projects only) 12 digit USGS HUC(s) | 030202010901 |
| County | Wake |

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7. Project Milestone Schedule

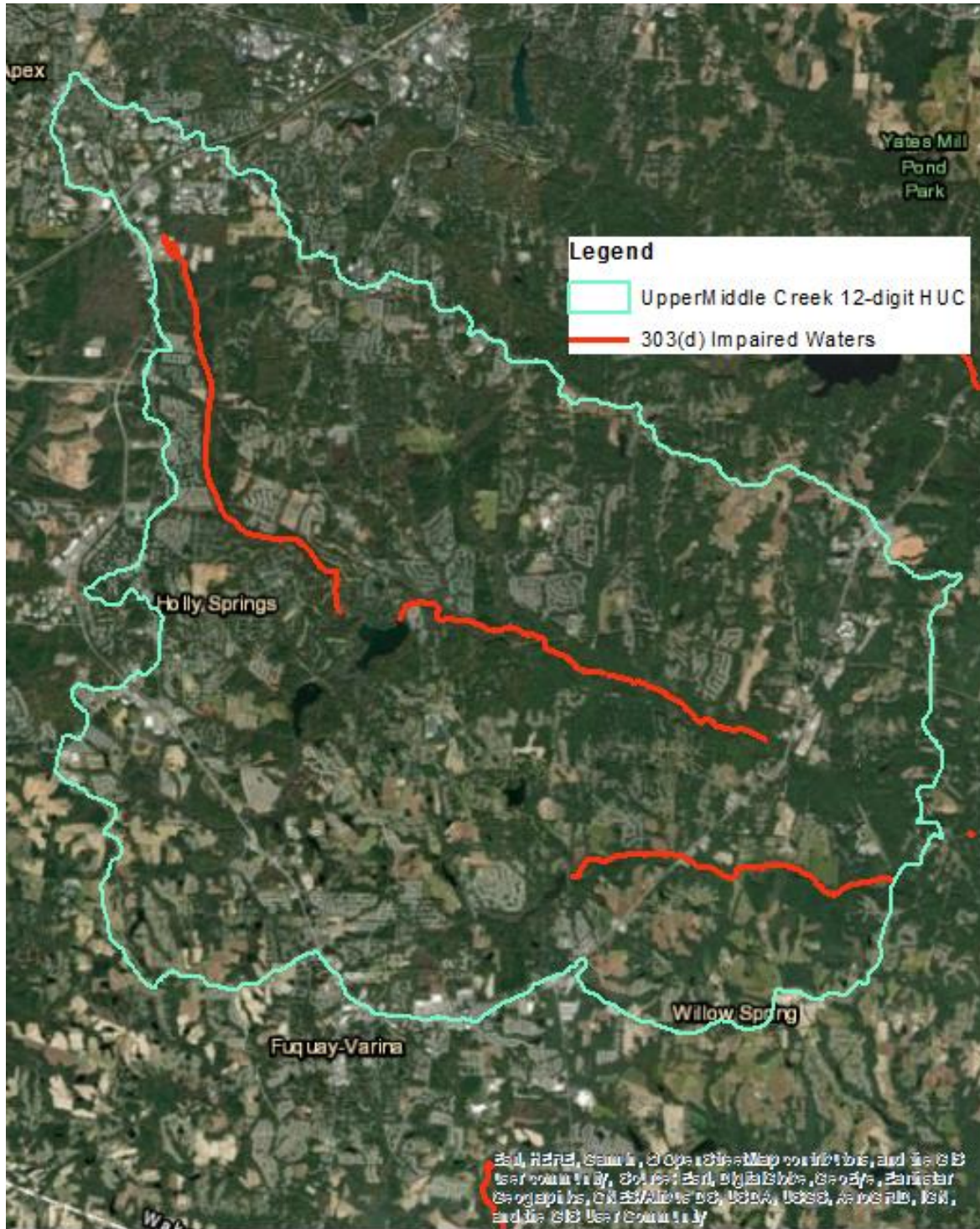
If anticipating starting project in second quarter, can leave first quarter blank. Please note anticipated dollar amount, percent of grant spent that quarter, and cumulative percent of grant spent for project. Quarterly invoices will only be reimbursed up to percent indicated. Unused funds will carry forward to next quarter. Note that 10% of grant will be held until receipt of Final Project Report.

| Quarter | Activities or outputs to be accomplished | Anticipated \$ amount / % of funding spent / cumulative % spent |
|--------------------------------------|---|---|
| First Quarter Jan-Mar 2019 | <ul style="list-style-type: none"> Set up and maintain contact information Manage financial transactions and invoice DWR quarterly; generate quarterly reports Convene local advisory team Begin collecting supplementary documents and data | \$3,641.09, 16.7% 16.7% cumulative |
| Second Quarter Apr-June 2019 | <ul style="list-style-type: none"> Manage financial transactions and invoice DWR quarterly; generate quarterly reports Continue review of existing planning documents and data Begin updating plan elements Develop and begin to implement outreach action items for the entire watershed | \$3,641.09, 16.7% 33.3% cumulative |
| Third Quarter Aug-Jul - Sept 2019 | <ul style="list-style-type: none"> Manage financial transactions and invoice DWR quarterly; generate quarterly reports Continue review of existing planning documents and data Continue updating plan elements Implement additional outreach action items | \$3,641.09, 16.7% 50% cumulative |
| Fourth Quarter Oct - Dec 2019 | <ul style="list-style-type: none"> Manage financial transactions and invoice DWR quarterly; generate quarterly reports Review draft plan with local stakeholders; solicit additional input Continue updating plan elements | \$3,641.09, 16.7% 66.7% cumulative |
| Fifth Quarter Jan - Mar 2020 | <ul style="list-style-type: none"> Manage financial transactions and invoice DWR quarterly; generate quarterly reports Review revised draft plan with local stakeholders; solicit additional input Continue updating plan elements | \$3,641.09, 16.7% 83.3% cumulative |
| Sixth Quarter Apr - Jun 2020 | <ul style="list-style-type: none"> Manage financial transactions and invoice DWR quarterly; generate quarterly reports Print/disperse plan to Partners (if desired) Finalize plan for and submit for approval Final project report | \$3,641.10, 16.7% 100% cumulative |

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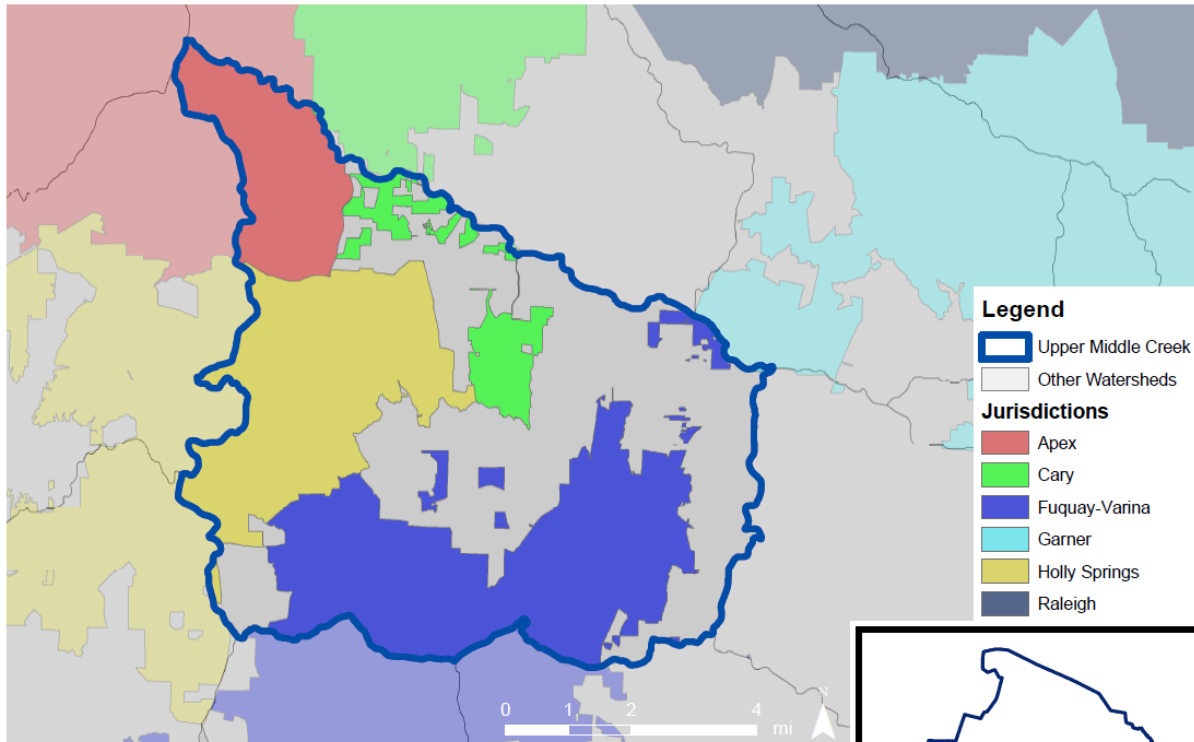
8. Map of project area: Please copy map into document as a small image file.

The following map outlines the subwatershed boundary, as well as the impaired waters within it.



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The following supplemental map illustrates the regional impact of this watershed on the several distinct municipalities within it.



UPPER MIDDLE CREEK WATERSHED

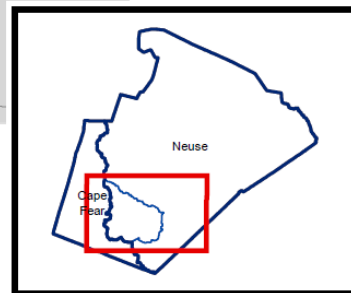
Jurisdiction Map



WAKE SOIL AND WATER
CONSERVATION DISTRICT



WAKE
COUNTY
NORTH CAROLINA



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9. Detailed description of the project

(Note: if developing a Watershed Restoration Plan, please also complete section 16)

The Upper Middle Creek watershed is a highly developed subwatershed of the Neuse River Basin. This watershed is comprised of land in the Apex, Cary, Holly Springs, and Fuquay-Varina jurisdictions, as well as unincorporated Wake County, which are part of the burgeoning Triangle metropolitan area. This heavily-urbanized area is becoming more impacted by growth and development every day; the Town of Apex, which encompasses the headwaters of Upper Middle Creek, was recently named the “fastest growing suburb in the nation” by a leading real estate website. Three distinct stretches of Middle Creek, including its headwaters, as well as its tributary, Terrible Creek, are listed on the most recent 303(d) impaired waters list as not supporting sufficient benthic life and/or fish communities. This level of impairment can be expected to continue, and even worsen, as increasing urbanization occurs in the Upper Middle Creek watershed. As such, a Watershed Action Plan is needed to identify sources of both existing and potential impairment through data analysis and investigation, and to outline strategies for all participating project Partners to aid in watershed restoration and conservation practices to improve and protect water quality in this watershed.

This plan will engage and promote coordination amongst local government staff from all of the project Partners, as well as from Wake County Soil and Water Conservation District, the Triangle J Council of Governments, community and conservation groups, and the general public through individual and collaborative outreach efforts. It will coordinate with other related efforts and initiatives in the watershed and adjacent watersheds to allow for a better understanding of watershed issues. It will compile all available water quality data, land use and land cover information, and existing and proposed efforts or restoration or mitigation initiatives throughout the watershed. Additionally, known or suspected point and non-point sources will be identified to the closest extent possible and mapped with GIS software. All of this and other available information will be used to identify sources contributing to continued degradation in the Upper Middle Creek watershed, and prioritize steps forward for each of the Partners and the region as a whole.

The NC Department of Transportation's Southeast Extension of HWY-540 will expand and add approximately 10 miles of roads in the Upper Middle Creek Watershed. Planned highway construction is concentrated on lands administered by Holly Springs and Wake County, and will cross the main channel of Middle Creek and multiple tributaries in the northern half of the watershed. New impervious surfaces (constructed at the expense of existing forest, wetlands, and other open space) and their proximity and connectivity to surface waters are expected to increase sediment loads and decrease stream bank stability. Water quality data synthesized as part of this project will provide important baseline water quality data prior to highway construction.

Highway construction will also have indirect and long-term effects on water quantity and dynamics. Land owners along and in close proximity to the proposed highway path will need to make difficult land ownership decisions as purchase agreements and easements are offered for their property. Land segmentation can impede forest and agricultural land management making rural ownership impractical and unsafe. Land management restrictions combined with improved accessibility throughout the Triangle area can facilitate conversion of

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open space to urban land uses. This watershed plan will assist in the identification, protection, and mitigation of key natural resource features in the Upper Middle Creek Watershed.

Findings from NEPA and other reports produced during the planning and development stages of the 540 extension will be incorporated into this Watershed Action Plan.

The goal of this project will be to develop, complete, and secure DEQ approval of a Watershed Action Plan for the Upper Middle Creek that identifies stressors and causes of impairment, as well as action items such as stormwater assessments and mapping, stream restoration, and other projects which the Partners can implement to mitigate these issues. This multi-disciplinary, multi-jurisdictional plan will provide regional opportunities for collaboration and watershed protection.

10a. Related Projects in the Watershed

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Please note any other water quality or conservation projects in the same watershed that contribute to the same goals as the proposed project. These could be own or partners' related water quality planning or implementation projects. If few or none, note how this project will fill a need.

Over the past 5-years, Wake Soil and Water Conservation District has established 12 landowner contracts for participation in state cost-share programs for BMP implementation. These projects include bioretention areas, cover crops and cropland conversion, field borders, grassed waterways, livestock exclusion fencing, and conservation tillage plans. Collectively, these projects affected over 600 acres of land and preventing an estimated 23,900 lbs of N, 7,700 lbs of P, and 3,100 tons of soil from entering waterways. District employees continue to work with private landowners to implement conservation practices each year.

This plan and the project partners will make use of the knowledge and history of other similar, adjacent, and/or related watershed efforts and initiatives, such as the work of the Black Creek Watershed Association, in order to more fully understand Upper Middle Creek watershed issues and potential paths forward.

The Town of Holly Springs is preparing to begin their Stormwater Master Planning in FY19. This effort will focus first on the Middle Creek watershed; therefore, the Town is strongly invested in this proposed WAP project, and very interested in working directly with Apex and other Partners to implement future mitigation measures identified in this plan.

10b. Relevance to Proposed Project (if applicable)

Help reviewers understand local capacity:

- *How might these projects benefit or complement the proposed project?*
- *When were they completed?*
- *Who implemented/maintains them?*

Wake Soil and Water Conservation District projects have historically focused on agricultural BMPs. These practices are often implemented and maintained by private landowners that possess or have access to the equipment needed for installation. This project will benefit the District by identifying implementation opportunities that better reflect water quality stressors impacting the Upper Middle Creek Watershed.

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11. What funding sources exist to implement the results of the project?

The Wake Soil and Water Conservation District provides free technical assistance and funding opportunities through county, state, and federal programs to a wide variety of landowners throughout Wake County. Existing funding sources to implement the results of the project include: NC Dept. of Agriculture Community Conservation Assistance Program (CCAP) and Agricultural Water Resources Assistance Program (AgWRAP), and the U.S. Department of Agriculture National Resource Conservation Service Environmental Quality Incentives Program (EQIP).

All Project Partners have expressed vested interest in collaborating and pursuing 319 funding to implement future mitigation efforts outlined in this proposed Watershed Action Plan.

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12. (Optional) Photos or diagrams: *include photos or diagrams if they would supplement project narrative and improve reviewers' understanding of your project.*

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| 13. Funding Requested | | | | | |
|--|---------------------|--------------------|---|--------------------|---|
| <i>Note: If a significant portion of funding is in contractual line, please break down contractual line items in section 15.</i> | | | | | |
| Budget Categories (itemize all categories) | Section 205j | | Non-Federal Match (recommended, but not required) | Total | Justification (Include explanation for each budget line item) |
| | Year 1 | Year 2 | | | |
| Personnel/Salary | \$4,600.54 | \$9,201.08 | \$5,040.00 | \$18,843.00 | <p>TJCOG staff time to complete WAP.</p> <p>Staff time match of 1 hour each month (estimated at \$35/hour) over 18 months from 4 Partners (Cary, Holly Springs, Apex, FV), to supply data/documents, review draft, answer questions, etc. \$2,520</p> <p>Staff time match of 4 hours each month (estimated at \$35/hour) over 18 months from Wake County Soil and Water Conservation District to assist with the WAP. \$2,520</p> |
| Fringe Benefits | \$1,702.33 | \$3,404.66 | | \$5,107.50 | TJCOG Fringe Benefits |
| Supplies | \$167.27 | \$333.30 | | \$500.00 | Printing costs for public outreach materials and final plan |
| Equipment | | | | | |
| Travel | \$149.99 | \$299.97 | | \$450.00 | Travel to/from and parking at meetings |
| Contractual | | | | | |
| Other | | | | | |
| Total Direct | \$6,619.50 | \$13,239.01 | \$5,040.00 | \$24,900.50 | |

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|---|-------------|-------------|-------------|-------------|---|
| Indirect (max. 10% of direct costs, per 40 CFR 35.268) | \$662.67 | \$1,324.74 | \$8,035.45 | 10,021.50 | Indirect costs include overhead, telecommunications, office space, etc. TJCOG actual indirect costs are higher than the allowable rate. The difference will be covered by TJCOG as voluntary match. |
| Annual Totals | \$7,282.18 | \$14,563.75 | \$13,075.45 | \$34,922.00 | |
| Grand Total | \$21,846.55 | | \$13,075.45 | \$34,922.00 | |
| % of Total Budget | 63% | | 37% | 100% | |

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| 14. Match summary (if applicable—recommended, but not required) | |
|--|--|
| Total Match amount | \$13,075.45 |
| Cash Match | \$13,075.45 |
| Source(s): | <p>Staff time match of 1 hour each month (estimated at \$35/hour) over 18 months from 4 Partners (Cary, Holly Springs, Apex, FV), to supply data/documents, review draft, answer questions, etc. \$2,520</p> <p>Staff time match of 4 hours each month (estimated at \$35/hour) over 18 months from Wake County Soil and Water Conservation District to assist with the WAP. \$2,520</p> <p>Indirect costs include overhead, telecommunications, office space, etc. TJCOG actual indirect costs are higher than the allowable rate. The difference will be covered by TJCOG as voluntary match. \$8,035.45</p> |
| In-kind Match | |
| Source(s): | |

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| 15. Contractual budget – IF APPLICABLE <i>If a significant portion of funding is in contractual line, please break down contractual line items here.</i> | | | | | |
|--|----------------|--------|--|-------|--|
| Budget Categories (itemize all categories) | Section 205(j) | | Non-Federal Match (recommended, but not required) | Total | Justification (Include explanation for each budget line item) |
| | Year 1 | Year 2 | | | |
| Personnel/Salary | | | | | |
| Fringe Benefits | | | | | |
| Supplies | | | | | |
| Equipment | | | | | |
| Travel | | | | | |
| Contractual | | | | | |
| Other | | | | | |
| Total Direct | | | | | |
| Indirect (max. 10% of direct costs, per 40 CFR 35.268) | | | | | |
| Annual Totals | | | | | |
| Grand Total | | | | | |
| % of Total Budget | % | | % | 100% | |

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| 16. (Only for applicants developing a 9-Element Watershed Restoration Plan) Please indicate below what sources you will use to find or develop the information necessary to meet EPA's 9 Key Elements. | |
| 1 | An identification of the causes and sources or groups of similar sources that will need to be controlled to achieve the load reductions estimated in the watershed |
| | This plan will provide an in-depth analysis identifying the causes and sources of pollutants impacting the watershed. The watershed assessment generally has greater value if the stressors and sources can be identified with as specific location(s) as possible (i.e., subwatershed, stream, stream segment). This association could help guide management measure; therefore, the plan will aim to also identify stressors and sources, as well as any additional water quality impairments and numeric water quality or biologic targets where applicable. |
| 2 | A description of the NPS management measures that will need to be implemented to achieve load reductions as well as to achieve other watershed goals identified in the watershed based plan |
| | The plan will describe management measures already in place, measures planned, and additional measures that can be implemented throughout the watershed. These are intended to help contribute to reductions in pollutant loadings, with the end goal of achieving watershed health and water quality or biologic standards (possibly in table format). Measures can be implemented for a variety of purposes, and will target the stressors and sources identified in Element 1. The plan will also identify the critical areas in which these measures will be needed. This description will be detailed enough to guide implementation activities and will include a map of priority areas. |
| 3 | An estimate of the load reductions expected for the management measures |
| | This plan will identify and evaluate various management measures that may help to reduce pollutant loads and their associated estimated load reductions expected as a result of implementation throughout the watershed. This will also include those measures already prescribed or those adopted but not yet implemented by project Partners. |
| 4 | An estimate of the amount of technical and financial assistance needed associated costs and or sources and authorities that will be relied upon, to implement the plan |
| | Addressing technical and financial needs, developing a schedule for implementation and measurable milestones, will provide structure to the entire watershed effort and can help watershed coordinators ensure that watershed efforts are progressing on track. These details will make it easier to a) identify problem areas and b) prepare future watershed planning efforts. The plan will aim to pair potential management strategies with cost ranges (possibly in table format). The plan will also include a list of diverse possible funding sources. |
| 5 | An information/education component that will be used to enhance public understanding of the project |
| | The Project team will present an overview of the project, as well as developments and final results, to several groups, including the representatives from all Project Partners, among others as they become available. |

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|---|--|
| 6 | <p>A schedule for implementing the NPS management measures identified in this plan that is reasonably expeditious</p> |
| | <p>For this plan, a schedule will be established that will include a timeline of when tasks should be implemented and accomplished, and will identify which agencies or organizations can possibly pursue implementation. This will also include those measures planned but not yet implemented. Timelines will cover the entire watershed recovery process, and will set both short, mid and long term goals to be achieved. Tasks outlined in the implementation schedule will be specific yet broad enough to allow for changes in the future implementation should a different organization take over the implementation work.</p> |
| 7 | <p>A description of interim, measurable milestones for determining whether NPS management measures or other control actions are being implemented</p> |
| | <p>This plan will identify goals that are consistent with the management strategies recommended in previous elements, and will identify if the goals are short, mid-term, or long-term in nature. In addition, the plain will include potential funding sources and groups who may be likely to implement the strategies in the future. Examples of potential measurable milestones include:</p> <ul style="list-style-type: none"> • Implementation of pre-project monitoring; • Installation or implementation of projects (e.g. establishing a conservation easement, fencing out cattle, or planting buffers); • Five years of meeting identified success criteria; • Implementation of long-term monitoring programs; • Demonstration of load reductions; • The study of recommended plan strategies by local governments or regulatory agencies; • Implementation of a portion of any strategy recommended in a plan; and • Implementation of ordinance and programmatic changes that support, enforce, or enhance recommendations made in a plan. |
| 8 | <p>A set of criteria that can be used to determine whether loading reductions are being achieved overtime and substantial progress is being made towards attaining water quality standards</p> |
| | <p>As part of developing the plan, criteria will be identified that can be used to determine whether or not loading reductions are being achieved and progress is being made towards improving water quality. Criteria may be both qualitative and quantitative and will be consistent with the management activities identified in the previous elements. In addition to selecting water quality indicators as criteria, the goal will be to develop criteria that are more programmatically focused, and that are achievable given the technical and/or financial capability of potential implementers. For example, potential</p> |

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| | criteria may be an account of how many projects have been implemented, and what types of projects they are. |
| 9 | A monitoring component to evaluate the effectiveness of the implementation efforts over time measured against the criteria established under item 8. |
| | Existing and proposed monitoring efforts that are or will be performed by the Project Partners will be outlined in detail in this plan. Potential future monitoring programs will be outlined for consideration and implementation by project Partners. |

If you have questions or need assistance filling out this application, please do not hesitate to contact 205(j) grant administrator Maya Cough-Schulze at (919) 807-6442 or maya.cough-schulze@ncdenr.gov.